

WHAT IS CLAIMED IS:

1. A reaction chamber, comprising:  
a chamber upper wall and a chamber lower wall made of a transparent material which is heat resistant and non-reactive with gases introduced into said chamber;  
wherein said chamber upper wall and said chamber lower wall each comprise two, flat rectangular segments that are slightly out of parallel such that each of said chamber upper wall and said chamber lower wall has a pitch, and said pitches point away from each other.
2. The reaction chamber of Claim 1, further comprising an inlet flange secured at a forward end of said chamber to said upper and lower walls, and an outlet flange secured at a rearward end of said chamber to said upper and lower walls.
3. The reaction chamber of Claim 1, wherein said pitch comprises a bend in each of said chamber upper wall and said chamber lower.
4. The reaction chamber of Claim 1, wherein said pitch comprises a joint between two rectangular segments.
5. The reaction chamber of Claim 4, wherein said joint comprises a welded connection which joins said two rectangular segments.
6. The reaction chamber of Claim 1, wherein each of said upper and lower chamber walls has a thickness ranging between about 4 and about 6 millimeters.
7. The reaction chamber of Claim 6, wherein said thickness is about 5 millimeters.
8. The reaction chamber of Claim 1, wherein said pitch is at least about 13 millimeters.
9. The reaction chamber of Claim 1, wherein said pitch is at least about 6% of the width of said chamber.
10. The reaction chamber of Claim 1, wherein the rectangular segments slope at an angle of less than about 10° with respect to horizontal.
11. The reaction chamber of Claim 1, wherein the rectangular segments slope at an angle of about 7° with respect to horizontal.

12. The reaction chamber of Claim 1, wherein the rectangular segments slope at an angle with respect to horizontal such that the segments form an interior angle which is slightly less than 180°.

13. The reaction chamber of Claim 1, wherein the chamber width is about 3 times the chamber height.

14. The reaction chamber of Claim 1, further comprising:

a substrate support provided within said chamber, said substrate support having a central axis around which said substrate support rotates; and

at least one heat source provided outside of said chamber, said heat source being positioned either above or below said chamber.

15. A method of forming a reaction chamber, said method comprising:

forming a pitch in at least one of an upper chamber wall and a lower chamber wall;

joining said upper chamber wall to a first edge of a first side wall and a first edge of a second side wall; and

joining said lower chamber wall to a second edge of said first side wall and a second edge of said second side wall, said lower and upper chamber walls and side first and second side walls forming a reaction space having a first opening and a second opening disposed on opposite ends of said reaction space.

16. The method of Claim 15, further comprising joining an inlet flange to said first opening and joining an outlet flange to said second opening.

17. The method of Claim 15, wherein said forming comprises bending said at least one of said upper and lower chamber walls to form said pitch.

18. The method of Claim 15, wherein said forming comprises joining two rectangular segments to form said pitch.

19. The method of Claim 18, wherein said joining comprises welding a connection which joins said two rectangular segments.

20. The method of Claim 15, wherein said pitch is at least about 13 millimeters.

21. The method of Claim 15, wherein said pitch is at least about 6% of the width of said chamber.

22. The method of Claim 15, wherein said pitch gives the walls a slope angle relative to horizontal.

23. The method of Claim 22, wherein said slope angle is less than about  $10^{\circ}$ .

24. The reaction chamber of Claim 23, wherein slope angle is about  $7^{\circ}$ .

25. The method of Claim 15, wherein said pitch gives the walls an interior angle which is slightly less than  $180^{\circ}$ .

26. The method of Claim 15, wherein the chamber width is about 3 times the chamber height.

27. The method of Claim 15, further comprising forming a pitch in both of said upper and lower chamber walls.

28. A reaction chamber comprising:

an upper wall, a lower wall and a plurality of side walls configured to process a semiconductor substrate at reduced pressures;

at least one of said upper and lower walls being formed of two flat, angled segments that have surfaces facing an interior of the chamber and that form an interior angle of less than  $180^{\circ}$ .

29. The chamber of Claim 28, wherein the angled segments slope at an angle of less than about  $10^{\circ}$  with respect to horizontal.

30. The chamber of Claim 29, wherein the angled segments slope at an angle of about  $7^{\circ}$  with respect to horizontal.

31. The chamber of Claim 28, wherein the chamber width is about 3 times the height of a side wall.